Remarks/Arguments:

Claims 1-20 remain pending in this application. The specification including the abstract has been amended without adding new matter. Further, claims 1 and 15 have been amended without adding new matter. Reconsideration and allowance of the application in view of the above amendment and the following marks is respectfully requested.

Drawing Objections:

The drawings have been objected to by the Examiner and corrections have been made to Figures 1, 2 and 3. Also, the specification on pages 4 and 5 has been amended to comply with the corrections/editions related to these figures.

With reference to Fig. 11, Examiner states that the "staple-like" fold should be shown. The bendable tines are clearly shown in Fig. 11 and further the tines being folded in a staple-like fashion is described on page 10, lines 5-7. Therefore, the Applicants believe it is not necessary to show such a fold in the figure.

Furthermore, with reference to Fig. 17, 17a and specification page 12, Examiner states how a "reload window" operates is not clearly described or shown. Fig 17, 17a and specification on page 12, lines 16-22 clearly show and define the "preload window" and its purpose. Therefore, the Applicant's believe it is not necessary to further show or describe any such operation.

No new matter has been introduced with respect to 35 U.S.C. §132.

Claim Rejections Under 35 U.S.C. §112

The Examiner has rejected claims 14-17 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The disclosure on page 11, lines 12-16 have been amended to provide support for the claimed subject matter. Therefore, rejection of claims 14-17 is obviated.

Additionally, with reference to claim 6, Examiner asserts that the contact free end movably disposed in a slot in the housing must be shown or the feature(s) canceled from the claim. The contact is shown in Fig. 26 and the structure of the contact and manner in which its end is movable is clearly described on page 12, lines 15-17 and, therefore, Applicants believe such a feature need not be shown in a drawing.

35 U.S.C. §103 Rejection

The Examiner has rejected claims 1, 2, 3, 4, 5, 8-12, 14-17 and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Niitsu (U.S. Patent No. 6,142,790) in view of Anhalt et al. (U.S. Patent No. 3,815,077), Burton et al. (U.S. Patent No. 4,738,625), Lok (U.S. Patent No. 6,027,381) and Matsuzaki et al. (U.S. Patent No. 6,287,151 B1).

The Niitsu patent discloses an electrical connector having a generally flat housing adapted for interconnecting a pair of generally parallel flat circuits. The housing mounts a plurality of terminals. Each terminal includes a base molded to a portion of housing, a tail extending from the base rearwardly of the connector, and a cantilevered beam extends forwardly of the base into first and second joint bowed portions and then terminates in a U-shaped joint. The tail is provided for connection to a conductor of the flat circuit on which the connector is

mounted. A contact arm extends from the U-shaped joint back over the cantilevered beam and terminates in a contact portion for engaging an appropriate conductor on a second flat circuit.

The Niitsu patent clearly fails to disclose the electrical connector recited in amended independent claim 1. Specifically, Niitsu fails to show or suggest the interior contact extent having a flat portion with the spring-like portion overlying the flat portion. As discussed above in Niitsu, the beam 20 extends forwardly from the base 16, with a first bowed portion 30 projecting downward and a second bowed portion 32 projecting upward, and further terminating in a U-shaped joint. Niitsu relies on these bowed portions to provide uniform and reliable contact pressure against the circuit pads on the flat circuit. Whereas, in the present invention, the spring force is applied solely by the interior contact extent. Clearly, Niitsu fails to teach or suggest connector structure of the present invention. Furthermore, lacking such structure, Niitsu fails to show the electrical connector as disclosed and claimed in the present invention.

The Examiner also acknowledges that the connector of Niitsu is not for use with an LCD. The Examiner points to Burton which allegedly discloses a spring connector (Fig. 3) for use with the LCD. The Examiner further contends that it would have been obvious to form the Niitsu system for use with an LCD that being standard element of circuit packages as shown by Burton.

Burton discloses a connector having extended conductive strips for connecting an LCD display at one end to the printed circuit board at the other end. The connector also includes an integral insulating support member generally S-shaped comprising two contiguous U-shaped portions. The connector is screwed to both the panel at one end and to the board at the other end.

Even though Burton discloses an electrical connector for an LCD, Burton fails to teach or suggest the structure of connector including an interior contact extent having a flat portion and a

spring-like portion overlying the flat portion as disclosed and claimed in the present invention. Also, Niitsu, as noted above fails to teach or suggest the connector structure in the manner disclosed and claimed in the present invention. There is no suggestion in either Burton or Niitsu to form the Niitsu system for use with an LCD of Burton in the manner proposed by the Examiner. It is respectfully submitted that the only basis for combining the references is the use of applicant's invention.

Moreover, even if the references are combined, the combination fails to show the electrical connector as disclosed and claimed in the present invention. More specifically, even if one were to replace one of the circuits of Niitsu with the LCD of Burton, the combination still fails to disclose, teach or suggest the connector structure as recited in amended independent claim 1. It is therefore respectfully submitted that claim 1 defines patentably over the cited combination.

The Examiner has also rejected claims 2-5, 8-12, 14-17 and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Niitsu further in view of Anhalt et al., Lok and Matsuzaki et al. Applicant respectfully traverses the rejection. These references fail to fulfill the deficiency of Niitsu. Since independent claim 1 is patentable over the cited combination, as discussed above, applicant submits that claims 2-5, 8-12, 14-17 and 18-20 that depend from claim 1 are similarly patentably distinct over the cited references.

The Examiner has further rejected claims 1, 6, 8, 10, 11 and 20 under 35 U.S.C. §103(a) as being unpatentable over Wu in view of Lok, Burton and Matsuzaki.

Wu discloses an IC card connector including an insulative housing having top and bottom surfaces and a plurality of cavities extending therethrough in a vertical direction for receiving a

corresponding number of contacts. Each contact includes a main body, a spring beam for engagement with the IC card and a tail for solderably mounting on PC board. The tail is pressed against the bottom surface of the housing.

The Wu patent clearly fails to disclose the electrical connector as recited in amended independent claim 1. Specifically, Wu fails to show or suggest the connector structure as recited in amended independent claim 1. As discussed above, the housing in Wu has a plurality of cavities extending in a vertical direction to receive the contacts. However, in the present invention, there are no cavities required to secure the contacts to the housing. The contacts are secured on the bottom surface of the housing as recited in amended independent claim 1. Further, Wu fails to show the mid-section contact extent being secured to the lower surface of the housing as recited in amended independent claim 1. On the contrary, in Wu, the main body, which the Examiner points as "mid-section contact extent" is engaged within the cavity of the housing, and the tail, which the Examiner points as "exterior contact extent" is secured to the bottom surface of the housing.

The Examiner also acknowledges that the connector of Wu is not for use with a LCD and points to Burton which allegedly discloses the use of the connector with the LCD. The Examiner further contends that it is obvious to use the system of Wu with an LCD in view of Burton.

As discussed above, both Burton and Wu fail to teach or suggest the connector structure to secure the contacts in the manner disclosed and claimed in the present invention. There is no suggestion in either Burton or Wu to form the Wu system for use with an LCD of Burton in the manner proposed by the Examiner. It is respectfully submitted that the only basis for combining the references is the use of applicant's invention.

Moreover, even if the references are combined, the combination fails to show the electrical connector as disclosed and claimed in the present invention. More specifically, even if one were to replace one of the circuits of Wu with the LCD of Burton, the combination still fails to disclose, teach or suggest the connector structure as recited in amended independent claim 1. It is therefore respectfully submitted that claim 1 defines patentably over the cited combination.

Having addressed the rejection of the independent claim 1, it is respectfully submitted that claims 8, 10, 11 and 20, which depend from claim 1 are similarly patentably distinct over the references.

The Examiner has also rejected claim 6 under 35 U.S.C. §103(a) as being unpatentable over Wu further in view of Matsuzaki et al. Applicant respectfully traverses the rejection. Matsuzaki et al. fails to fulfill the deficiency of Wu. Since independent claim 1 is patentable over the cited combination as discussed above, applicant submits that claim 6 that depends from claim 1 is similarly patentably distinct over the cited references.

The Examiner has even further rejected claims 1 and 7 under 35 U.S.C. §103(a) as being unpatentable over Vacheron et al. in view of Burton and Matsuzaki.

Vacheron discloses an integral electrical contact and printed circuit board. Each contact has a lower arch secured to the circuit board and upper arch that arches over the low arch. The integral contact and printed circuit board is shown to be mounted in a plastic housing in such a way that the upper arch is enclosed in the housing.

The Vacheron patent clearly fails to disclose the electrical connector secured to a housing in a specific manner as recited in amended independent claim 1. Specifically, as discussed

above, Vacheron discloses only the combination of the contact and the printed circuit board, the combination of which is mounted in a housing. Vacheron does not disclose much about the housing. It merely shows a side cut view of the contact and circuit board mounted in the housing. Whereas, as recited in amended independent claim 1, the present invention discloses and claims a connector having only the contact mounted on the housing in a specific manner to establish a connection with the printed circuit board. Therefore, Vacheron fails to show or suggest the connector structure recited in amended independent claim 1.

Additionally, the Examiner acknowledges that Vacheron does not clearly disclose contact securement to the housing. The Examiner further points to Matsuzaki for disclosing securement by barbs and contends that it is obvious to use these features in the Vacheron device.

The Matsuzaki patent discloses an electrical connector adapted for manipulation by a vacuum-suction nozzle. The connector includes a dielectric housing which includes one lateral side in the center having end recesses and two lateral sides on each end of the housing having a central recess. Contacts are mounted in the housing such that tail and contact portions of the contacts extend into or toward these recesses. Additionally, the tail portion is secured to the housing and the contact portion projects above the top surface of the housing.

Clearly, Matsuzaki also fails to disclose the electrical connector as recited in amended independent claim 1. Specifically, Matsuzaki fails to show or suggest the connector structure of the present invention. As discussed above, Matsuzaki has a plurality of recesses in the housing to receive the contacts. However, in the present invention, there are no recesses required to secure the contacts to the housing. The housing in the present invention is generally planar with the contacts secured on the bottom surface of the housing as recited in amended independent claim 1. Furthermore, in Matsuzaki, the tail portion is secured to the bottom surface of the

housing. Whereas, in the present invention, only the mid-section of the contact is secured to the bottom surface of the housing, thereby leaving the tail portion (exterior contact) free for connection to the printed circuit board.

Even though Matsuzaki discloses contacts secured to the housing, Matsuzaki fails to teach or suggest both the structure of the connector housing and the manner in which the contacts are secured to the housing as disclosed and claimed in the present invention. Also, Vacheron, as noted above, fails to teach or suggest both the connector housing structure and the securement of the contacts to the housing as disclosed and claimed in the present invention. There is no suggestion in either Matsuzaki or Vacheron to use the securement by barbs in the Vacheron device in the manner proposed by the Examiner. It is respectfully submitted that the only basis for combining the references is the use of applicant's own invention.

Moreover, even if the references are combined, the combination fails to show the electrical connector as disclosed and claimed in the present invention. More specifically, even if one were to secure the contacts in the manner shown in Matsuzaki to the barbs in the Vacheron device, the combination still fails to disclose, teach or suggest both the connector housing structure and the manner of securing only the mid-section of the contact to the housing as recited in amended independent claim 1. It is respectfully submitted that claim 1 defines patentably over the cited combination.

The Examiner also alleges that Vacheron does not disclose LCD use and Burton discloses an LCD and it is obvious to use this function of Burton in the Vacheron device.

As discussed above, both Burton and Vacheron fail to teach or suggest a connector structure to secure the contacts in the manner disclosed and claimed in the present invention.

There is no suggestion in either Burton or Vacheron to form the Vacheron system for use with an LCD of Burton in the manner proposed by the Examiner. It is respectfully submitted that the only basis for combining the references is the use of applicant's invention.

Moreover, even if the references are combined, the combination fails to show the electrical connector as disclosed and claimed in the present invention. More specifically, even if one were to replace one of the circuits of Niitsu with the LCD of Burton, the combination still fails to disclose, teach or suggest the connector structure as recited in amended independent claim 1. It is therefore respectfully submitted that claim 1 defines patentably over the cited combination.

Having addressed the rejection of independent claim 1, it is respectfully submitted that claim 7, which depends from claim 1 is similarly patentably distinct over the references.

Finally, the Examiner has rejected claims 1 and 13 under 35 U.S.C. §103(a) as being unpatentable over Seidler in view of Burton.

Seidler discloses a terminal including a plurality of terminal clips crimped to a strip of support material to support the clips in a predetermined position for attachment to the circuit board. In one embodiment of Seidler, the clip is shown to have pin ends and spaced spring fingers for attachment to the circuit board and bent tabs are crimped to the support material.

The Seidler patent clearly fails to disclose the electrical connector as recited in amended independent claim 1. Specifically, Seidler fails to show or suggest an interior contact extent having a flat portion with a spring-like portion overlying the flat portion as recited in amended independent claim 1 of the present invention. Examiner points to element 14 as the interior

extent and element 16b of Siedler as the interior deflectable portion. However, the interior extent 14 of Siedler fails to show a spring-like portion overlying the flat portion as disclosed and claimed in the present invention. This is because element 14 of Siedler is flat located at one end of the contact for attachment to first circuit board, and element 16b of Siedler is a spring finger located at the other end of the contact for attachment to the second circuit board. Whereas, in the present invention, the interior contact extent includes both flat and spring-like portion where the spring-like portion overlies the flat portion located at only one end of the contact for attachment to only one circuit board. Clearly, Seidler fails to teach or suggest the connector housing structure of the present invention. Furthermore, lacking such structure, Seidler fails to show the electrical connector as disclosed and claimed in the present invention.

The Examiner also acknowledges that the connector of Seidler is not for use with an LCD and points to Burton which allegedly discloses the use of the connector with the LCD. The Examiner further contends that it is obvious to apply this feature of Burton to Seidler.

As discussed above, both Seidler and Burton fail to teach or suggest the connector structure to secure the contacts in the manner disclosed and claimed in the present invention. There is no suggestion in either Burton or Seidler to form the Seidler system for use with an LCD of Burton in the manner proposed by the Examiner. It is respectfully submitted that the only basis for combining the references is the use of applicant's invention.

Moreover, even if the references are combined, the combination fails to show the electrical connector as disclosed and claimed in the present invention. More specifically, even if one were to replace one of the circuits of Seidler with the LCD of Burton, the combination still fails to disclose, teach or suggest the connector structure as recited in amended independent

claim 1. It is therefore respectfully submitted that claim 1 defines patentably over the cited combination.

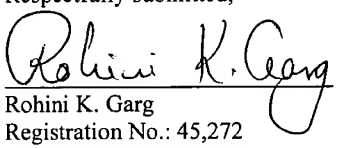
Having addressed the rejection of independent claim 1, it is respectfully submitted that claim 13 which depends from claim 1 is similarly patentably distinct over the references.

Conclusion:

In view of the amendment and remarks above, Applicants deem this application, including claims 1-20, is in condition for allowance and solicits such action. In the event that any issues remain following entry of this amendment, Applicants' agent respectfully invites the Examiner to contact the undersigned agent at the telephone number given below for either a personal or telephone interview if the Examiner believes that such would expedite the prosecution of this application.

No fee is believed to be required. However, please charge any deficiencies or credit any overpayment in these fees to Deposit Account No. 08-2461.

Respectfully submitted,



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Annotated Sheet Showing Changes

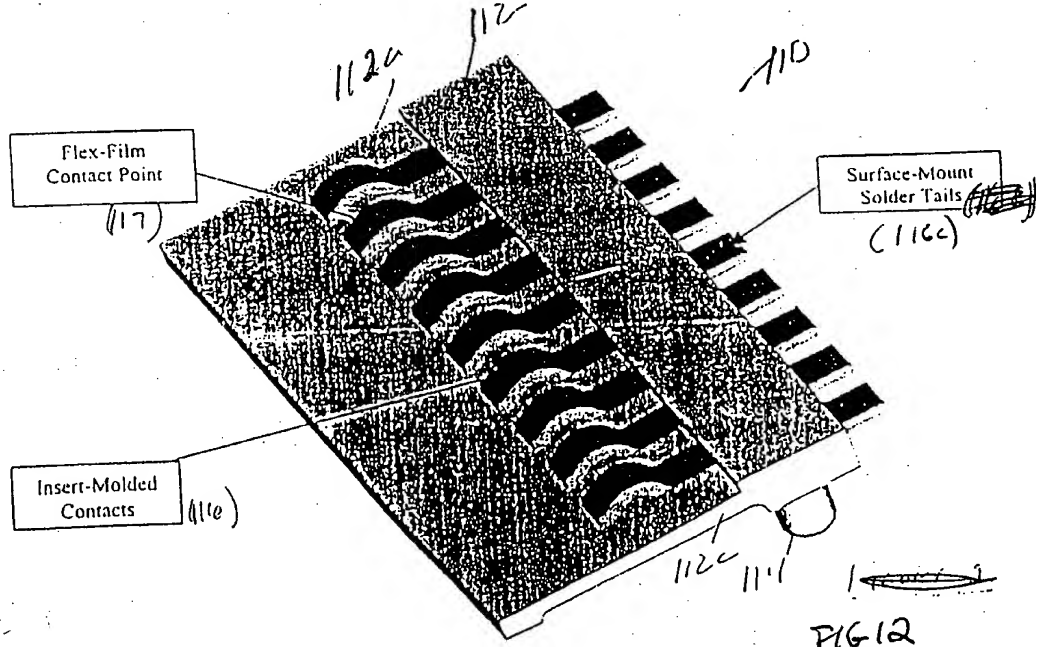

FIG 12

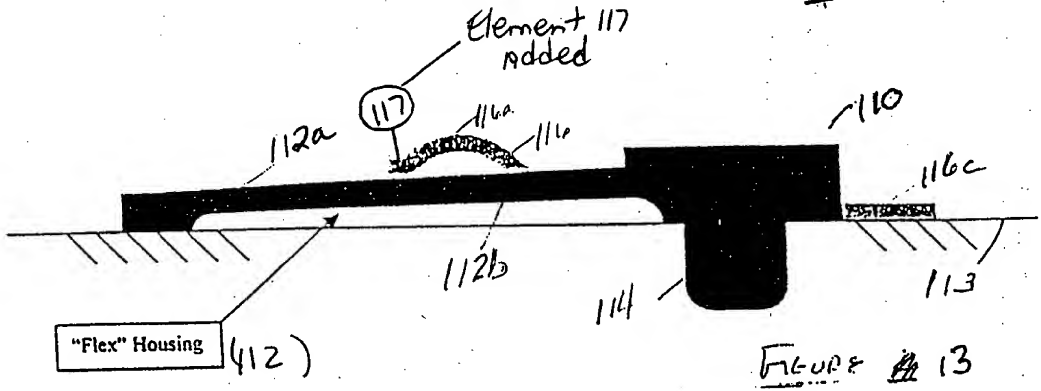

FIGURE 13